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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/586,824

06/05/2000

David Godfrey Williams

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8718

30623

7590

12/15/2004

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EXAMINER

YAN, REN LUO

ART UNIT

PAPER NUMBER

2854

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/586,824

Applicant(s)

WILLIAMS, DAVID GODFREY

Examiner

Ren L Yan

Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004 and 01 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 29-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,264,460 in view of Rasmussen(2,073,379). GB 2,264,460 teaches the structure of a stencil printing apparatus as claimed including the use of a metallic stencil sheet 3 of rectangular shape for printing solder on a circuit board having a metallic central body having one or more apertures formed through the stencil thickness to define pattern to be printed, a plurality of elongated receiving apertures 6 and 7 which define a plurality of elongated slots separated by a plurality of elongated strips on two opposite side edges of the stencil 3, and a supporting and tensioning apparatus including a plurality of displaceable mounting elements 13 that can engage the two edges of the stencil at a plurality of locations to hold the stencil in tension. See Figs. 1-4 in GB 2,264,460 for details. However, GB 2,264,460 does not teach to provide receiving apertures on the other two side edges and the corresponding mounting elements so as to be tensioned as well. The patent to Rasmussen teaches a stencil sheet 12 having receiving apertures 13 on all four side edges of the stencil sheet such that when the stencil sheet is mounted onto a frame, the apertures are engaged with mounting pins 16 and the stencil sheet will be stretched substantially equally in all directions. See Figs. 6 and 8, and column 1, line 42 through column 3, line 22 in Rasmussen

for example. It would have been obvious to those having ordinary skill in the art to provide the metal stencil 3 in GB 2,264,460 with receiving apertures along all four side edges of the stencil along with the mounting elements as taught by Rasmussen in order to ensure uniform tensioning in all directions upon mounting the stencil onto a frame. With respect to claim 31, Fig. 1 of GB 2,264,460 shows more than twenty receiving apertures along one side edge of the stencil as recited.

Applicant's arguments filed on 9-10-2004 have been fully considered but they are not persuasive.

In response to applicant's argument that neither Rasmussen nor GB 2,264,460 in any way suggest that the metals that form the stencils in GB 2,264,460 could be substituted with Rasmussen's highly elastic stencil because the elastic character of this stencil would render it unsuitable for solder printing on printed circuit board, it should be pointed out that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). GB 2,264,460 teaches the same type of metal stencil as used in the present invention and the Rasmussen patent is relied upon its teaching of applying tension to all 4 sides of the stencil so as to achieve equal tension on all sides of the stencil. As stated by the applicant that GB 2,264,460 desires that its stencil is tensioned without distortion. When uniform tension can not be achieved with tensioning apertures provided only on two sides of the stencil, one of ordinary skill in the art would look to the teaching of Rasmussen and be

motivated to provide tensioning apertures on all 4 sides of the stencil in GB 2,246,460 in order to achieve equal or uniform tension on the stencil. Accordingly, the combined teachings of GB 2,246,460 and Rasmussen would have suggested to those of ordinary skill in the art to apply the teaching of Rasmussen to the stencil of GB 2,246,460 as suggested by the Examiner above.

Applicant also argued that GB 2,264,460 teaches against providing apertures along all four edges of the stencil because it claims that the provision of two flexible edges with closely spaced apertures make it possible to avoid the transmission of any tensioning distortion to the main body of the stencil. This argument is not agreed to by the Examiner. GB 2,264,460 does not teach against providing apertures along all four edges of the stencil. Rather, GB 2,246,460 teaches providing apertures along two edges of the stencil to avoid the transmission of any tensioning distortion to the main body of the stencil. One of ordinary skill in the art, during the actual practice of using the GB 2,246,460 stencil and realizing that the tension on the stencil is not obtained at its desired level, would look to the teaching of Rasmussen and provide tensioning apertures along all four edges of the stencil in order to improve the performance of the stencil.

The declaration under 37 CFR 1.132 filed on 9-10-2004 has been carefully considered. Although supported by substantial evidence, the commercial success of the claimed invention does not overcome clear and convincing evidence of obviousness. Evidence of secondary considerations, including evidence of unexpected results and commercial success, are but a part of the "totality of the evidence" that is used to reach the ultimate conclusion of obviousness. *Kansas Jack*, 719 F.2d at 1151, 219 USPQ at 862. The existence of such evidence, however, does not control the obviousness determination. *See Newell*, 864 F.2d at 768, 9 USPQ2d at 1426. GB 2,246,460 clearly teaches the apparatus and the metal stencil with receiving apertures

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on two opposing side edges for tensioning the stencil so as to enable solder printing. Rasmussen clearly teaches the apparatus and stencil with receiving apertures on all four side edges to achieve equal tensioning of the stencil in all directions. One of ordinary skill in the art, when encountering problem of obtaining satisfactory tension in the stencil and the tension apparatus of GB 2,246,460 and charged with the knowledge that uniform tension can be achieved when the stencil is tensioned on all four sides as taught by Rasmussen, would be motivated to apply the teaching of Rasmussen to the stencil and tension apparatus of GB 2,246,460 in order to improve the performance of the stencil and thus the printing quality. Accordingly, when all factors are considered, claims 29-35 would have been obvious to one of ordinary skill in the art.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ren L Yan  
Primary Examiner  
Art Unit 2854

Ren Yan  
Dec. 13, 2004